

REMARKS

Claims 1-21 stand rejected.

Claim 21 is cancelled.

Claim 18 is amended to properly depend from claim 16. Claims 22-26 are added. No new matter is added.

Claims 1-20 and 22-26 remain in the case.

Applicant requests reconsideration and allowance of the claims in light of the following remarks.

Claim Rejections - 35 U.S.C. § 102/103.

Claims 1-3, 5, 7, 10, and 18 are rejected under 35 U.S.C. 102(b) as anticipated by U.S. Pat. No. 5,835,334 issued to McMillin et al (“McMillin”) or, in the alternative, under 35 U.S.C. 103(a) as obvious over McMillin.

Applicant respectfully traverses the rejections.

Claim 1 recites, “said ceramic plate is solid and devoid of openings for passing fluid therethrough.”

However, McMillin fails to disclose such a ceramic plate. As shown in FIG. 1 of McMillin, not only the electrode 1 but also the insulating coating 1c, which is alleged to be a ceramic plate by the Examiner, has openings for passing fluid (gas) therethrough to the backside of the wafer 4. These openings, for example, are channels 5a and 5b (Col. 4, line 65).

Therefore, McMillin does not teach or disclose, “a ceramic plate that is solid and devoid of openings for passing fluid therethrough,” as recited in claim 1.

Additionally, claim 1 recites, “a ceramic plate having a substantially horizontal planar lower surface conforming to and supported by said heating surface *but not fastened thereto*, the ceramic plate substantially entirely covering said upper heating surface, said ceramic plate including an upper supporting surface for supporting an object to be heated by heat conduction through said ceramic plate from said heater to such an object,

whereby said ceramic plate can be *easily placed on and removed from* said upper heating surface of said heater.”

In the Action on page 5, lines 2-6, the Examiner states that “the Examiner’s original citation of McMillan’s ceramic plate (*1, 1c*, column 4, lines 20-25, 33-39; alumina — “Al₂O₃”)

has been *redefined* as ceramic plate (1c, column 4, lines 20-25, 33-39; alumina – “Al₂O₃”).” (Emphasis added) Thus, the Examiner has shifted grounds for rejection, now basing the rejection on the dielectric layer 1c.

However, the component 1c of McMillin *is merely an insulator coating or dielectric layer* formed on the electrode cap 1 (FIG. 1). McMillin recites that the anodized coating 1c can be preferably formed by anodizing the top surface of the electrode cap 1 made of aluminum, and the anodized coating 1c may have a thickness of 0.001-0.005 inches (col.4, line 29). Alternatively, the electrode cap 1 may be composed of molybdenum, and the anodized coating or dielectric layer 1c of the cap is a diamond film with a thickness of about 5-50 μm (col. 4, lines 20-39). In each case, the layer 1c is a film-type coating over the electrode metal cap 1. The film or coating cannot stand by itself as a ceramic plate, and the electrode cap 1 is not ceramic.

If the anodized coating 1c is a ceramic plate as alleged by the Examiner, one skilled in the art will appreciate that it would be extremely difficult to detach the coating 1c from the top surface of the electrode cap 1 as it is strongly bonded thereto and is very thin, thereby defeating the purpose of the present invention. In detail, in the present application at page 7, lines 15-28, it is stated that “the particular heater device can be adapted to each specific need simply by changing the cover plate 2 which is substantially less expensive than the ceramic heater 1. This contributes to a substantial reduction in the overall equipment cost.” Also, see lines 5-10, at page 7 of the present application, which states, among other things, “the cover plate 2 is placed on the surface of the ceramic heater 1.”

On the contrary, in McMillin, as the component 1c is not detachable, it would have the same problem as the prior art of the present application and would not achieve the effect of the present invention, e.g., reducing the overall equipment cost by simply changing the cover ceramic plate placed on the ceramic heater, which is not possible with the structural configuration of McMillin. With McMillin, the component 1c alone cannot be changed and had to be replaced together with the electrode cap 1.

For at least these reasons, McMillin does not teach or disclose, among other things, the detachable ceramic plate as recited in claim 1.

For at least the reasons stated above, applicant respectfully submits that McMillin does not teach or disclose all of the limitations of claim 1, and therefore claim 1 is patentable over the prior art and allowance of this claim is requested.

Claims 2, 3, 5, 7, 10, and 18 depend from claim 1 and inherently include all of the limitations of the base claim. As discussed above, the prior art does not teach the limitations of the base claim much less the further embodiments of the dependent claims. Accordingly, claims 2, 3, 5, 7, 10, and 18 are allowable for their dependency and their own merits. For example, McMillin does not teach or disclose a ceramic plate substantially made of ceramic material as recited in claim 7.

Claims 4 and 6 are rejected under 35 U.S. C. 103(a) as being unpatentable over McMillin.

Applicant respectfully traverses the rejections.

Claims 4 and 6 depend from claim 1 and inherently include all of the limitations of the base claim. As discussed above, the prior art does not teach the limitations of the base claim much less the further embodiments of the dependent claims. Accordingly, claims 4 and 6 are allowable for their dependency and their own merits.

Claims 8, 9, 11-17, 20 and 21 are rejected under 35 U.S. C. 103(a) as being unpatentable over McMillin in view of U.S. Pat. No. 5,645,646 issued to Beinglass et al (“Beinglass”).

Applicant respectfully traverses the rejections.

Claim 8 depends from claim 1 and inherently includes all of the limitations of the base claim. As discussed above, the prior art does not teach the limitations of the base claim much less the further embodiments of the dependent claim. Accordingly, claim 8 is allowable for its dependency and its own merits.

Claim 9, similar to claim 1, recites, “said ceramic plate is solid and devoid of openings for passing fluid therethrough.” For at least the reasons stated above for claim 1, it is submitted that claim 9 is patentably distinguishable over the prior art and allowance of this claim is requested.

Claims 11-17 depend from claim 9 and inherently include all of the limitations of the base claim. As discussed above, the prior art does not teach the limitations of the base claim much less the further embodiments of the dependent claims. Accordingly, claims 11-17 are allowable for their dependency and their own merits.

Claim 19 is rejected under 35 U.S. C. 103(a) as being unpatentable over McMillin and Beinglass in view of U.S. Pat. No. 5,098,741 issued to Nolet et al (“Nolet”).

Applicant respectfully traverses the rejection.

Claim 19 depends from claim 9 and inherently includes all of the limitations of the base claim. As discussed above, the prior art does not teach the limitations of the base claim much less the further embodiments of the dependent claim. Accordingly, claim 19 is allowable for its dependency and its own merits.

Claim 20 recites “a ceramic plate detachably placed on said heating surface of said heater without being fastened thereto so as to substantially entirely cover said heating surface and defining a supporting surface for supporting an object of a film forming process, wherein said ceramic plate is substantially made of ceramic material.”

As discussed above, the insulating coating 1c of McMillin is not detachable from the top surface of the electrode cap 1, which is substantially made of metal, i.e., aluminum, and thus cannot anticipate the ceramic plate of the invention recited in claim 20. Even if the coating 1c can be detached from the lower electrode 2 of McMillin together with the electrode cap 1, it would not teach or disclose the above limitations of claim 20 because the combination of the electrode cap 1 and the coating 1c is not substantially made of ceramic material.

For at least these reasons, it is submitted that claim 20 is patentable over the prior art and allowance of this claim is requested.

Newly added Claims

Claim 23 recites “said ceramic plate can be easily placed on and removed from said upper heating surface of said heater, wherein said ceramic plate is substantially made of ceramic material, and wherein *said ceramic plate is directly placed on said upper heating surface.*”

As discussed above, the coating 1c of McMillin is not detachable from the top surface of the electrode cap 1, which is substantially made of metal, i.e., aluminum, and thus cannot anticipate the ceramic plate of the invention. Also, in McMillin, the anodized coating 4c is *not* directly placed on the upper heating surface. For at least these reasons, it is submitted that claim 23 is patentable over the prior art and allowance of this claim is requested.

With respect to claims 24-25, support for the limitations can be found in the specification, for example, at page 6, lines 23-25; page 8, line 12; and page 12, line 19. McMillin does not teach or disclose the limitations of claim 24 or claim 25 because the thickness of the anodized coating is extremely small, i.e., 0.001-0.005 inches (col.4, line 29).

Also, with respect to claim 26, support for the limitations can be found in the specification, for example, at page 7, lines 5-18. On the contrary, in McMillin, the anodized coating 1c cannot be removed from the heater for the reasons discussed above. Therefore, claim 26 is allowable.


CONCLUSION

For the foregoing reasons, reconsideration and allowance of claims 1-20 and 22-26 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

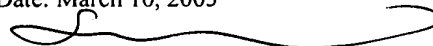
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Limited Recognition Under 37 CFR 10.9 (b)

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